

[METHOD FOR PROGRAMMING, READING, AND ERASING A NON- VOLATILE MEMORY WITH MULTI-LEVEL OUTPUT CURRENTS]

Abstract of Disclosure

A non-volatile memory with multi-level output currents includes a plurality of memory cells. Each of the memory cells includes a non-conducting dielectric layer sandwiched between two isolation layers. The non-conducting dielectric layer includes a first region and a second region. By injecting electrons into the first region or the second regions, memory cells with different threshold voltages can be obtained. When reading the memory cells, multi-level output currents can be detected and thus, the non-volatile memory with multi-level output currents is obtained.